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COMPARISON OF THE DISTRIBUTION OF ATTENUATED STRAINS OF CLASSICAL SWINE FEVER VIRUS IN TISSUES OF INOCULATED PIGS

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Introduction: Previous analysis indicated that attenuated strains of classical swine fever virus (CSFV) used for production of vaccines show unexpected genetic divergence. The aim of this study was to compare the course of early infection and tissue distribution of the most divergent attenuated CSFV strains.

Materials and Methods: Two groups of 12 pigs were vaccinated with KPS87 and Chinese (C-strain) CSFV strains (91.7% of sequence identity within E2 region). Blood samples were collected twice a week. Three pigs were killed at 7, 14, 21 and 28 days post inoculation (dpi). Samples were tested by real-time RT-PCR (sera and tissues), NPLA (sera) and IHC (tissues).

Results: None of the pigs inoculated with C-strain developed viraema while in the second group virus was detected in the blood of five pigs. KPS87 infection spread to a higher number of tissues and persisted for a longer period compared with the C-strain. In pigs from the C-strain group, neutralizing antibodies were detected earlier and reached higher levels compared with KPS87-inoculated pigs.

Conclusions: The C-strain of CSFV induced an earlier and more robust immune response and had lower tissue distribution, making it the strain of choice for emergency vaccination and comparative analysis of new vaccines.

BOVINE HISTOPHILOSIS IN SOUTHERN BRAZIL

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Introduction: *Histophilus somni* is the cause of histophilosis, which is characterized by multisystemic disease in ruminants. This study investigated the sudden death of three calves, one diarrhoeic calf, one aborted fetus and feedlot steers ($n = 12$) with respiratory distress from five farms in southern Brazil.

Materials and Methods: Necropsy examination was performed on all animals except those with respiratory difficulties, from which deep nasal swabs were collected. PCR assays targeted specific amplicons of ovine herpesvirus 2, novine herpesvirus -1 and -5 (BoHV-1 and -5), *Listeria monocytogenes*, *H. somni*, pestivirus, *Mycoplasma bovis* and *Mannheimia haemolytica*; bovine group A rotavirus (BoRV-A) and bovine coronavirus (BCoV) were investigated in animals with diarrhoea and pulmonary disease.

Results: The principal pathological findings included vasculitis, thrombotic meningoencephalitis, necrotizing myocarditis, hepatic abscesses and bronchopneumonia. *H. somni* DNA was amplified from all calves, the brain of the aborted fetus and swabs of five steers with pulmonary distress. The five steers also contained BoHV-1 DNA ($n = 4$); two were positive for BCoV. All other PCR assays were negative; BoRV-A was not identified. Three *H. somni*-induced syndromes were identified: systemic ($n = 4$), abortion ($n = 1$) and pulmonary ($n = 5$).

Conclusions: These findings confirm the involvement of *H. somni* in the different disease presentations on these farms.

CONCOMITANT CANINE HERPESVIRUS-1, CANINE DISTEMPER VIRUS, CANINE PARVOVIRUS AND CANINE ADENOVIRUS INFECTIONS

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Introduction: There are few descriptions of multiple infections in dogs. This study investigated the participation of canine herpesvirus type 1 (CaHV-1), canine distemper virus (CDV), canine adenovirus type 1 and 2 (CAdV-1 and-2) and canine parvovirus type 2 (CPV-2) in dogs from southern Brazil.

Materials and Methods: Four 3- to 8-month-old, German spitz littermates (one female and three males), one 47-day-old male Bichon Frisé and a 3-year-old, mixed-breed male dog that died spontaneously were subject to necropsy examination. Clinical manifestations included abdominal pain, extreme vocalization, convulsions and icterus. Routine necropsy examinations were performed; duplicate tissues were collected for histopathology and the molecular detection of specific genes of CDV, CaHV-1, CAdV-1 and -2 and CPV by RT-PCR/PCR assays.

Results: All dogs demonstrated necrohaemorrhagic hepatitis and nephritis, and vasculitis; pulmonary haemorrhage with necrotizing bronchitis, non-suppurative myocarditis and parvoviral enteritis occurred in most dogs. PCR/RT-PCR amplified the desired amplicons of CaHV-1, CDV, CPV-2, CAdV-1 and CAdV-2 E from multiple tissues of these dogs. Quadruple and triple viral coinfections were identified. The target tissues/organs of each pathogen demonstrated the characteristic pathological pattern(s) and contained viral DNA and/or RNA.

Conclusions: These findings support a diagnosis of coinfections due to CDV, CaHV-1, CPV-2a, CAdV-1 and CAdV-2 in these dogs.

THE FIRST CASE REPORT OF VERMINOUS PNEUMONIA IN CAMELS (*CAMELUS DROMEDARIUS*) WITH *SETARIA CERVI*

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Introduction: The causative agents of verminous pneumonia in camels are usually *Dictyocaulus filaria* and *Dictyocaulus viviparus*. *Dictyocaulus filaria* most commonly affects lambs and goat kids, but *Dictyocaulus viviparus* is seen in cattle. *Setaria cervi*, a common parasite of cattle, has also been reported in sheep and goats.

Materials and Methods: From February 2009 to February 2010, 300 lungs from dromedary camels (1–11 years of age) slaughtered at an abattoir in Tehran province, Iran, were examined grossly for the presence of pneumonic lesions. One hundred and twenty lungs were affected, from which specimens were collected for histopathological and bacteriological examination.

Results: There were four cases of verminous pneumonia, three caused by a common pulmonary parasite of ruminant lungs (*Dictyocaulus*). The fourth case was a novel verminous pneumonia caused by *Setaria cervi*.

Conclusions: This is the first case report of verminous pneumonia caused by *Setaria cervi* in a camel.